UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,842	01/30/2004	Rabih Abou-Chakra	Q79655	3849

72875   7590   02/07/2008

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER
BARON, HENRY

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
02/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com
kghyndman@sughrue.com
USPatDocketing@sughrue.com

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/766,842	ABOU-CHAKRA ET AL.
	Examiner	Art Unit	.
	Henry Baron	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>09 November 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments/Remarks

1.   Claims 1- 15 are pending in the application; Claims 1 - 13 have been amended and claims 14 and 15 are added.

2.   In regards to the informalities, the abstract of the disclosure is objected to because the abstract should not contain legal terms such as "said" and "means". In the new Abstract of the Disclosure, the Applicant uses the terms 'connection means' and 'dating means'. Therefore, the Examiner maintains the objection to the Abstract.

3.   With regards to the objection to the arrangement of the specification, the Examiner notes the amendment to the specification and withdraws this objection.

4.   In regards to inadvertent dependency of claim 9, the Examiner notes the correction made in the amendment and withdraws this objection.

5.   Applicant's arguments filed 11/09/2007 have been fully considered but they are not fully persuasive.

6.   With regards to claims 1- 7 and 10, Applicant argues that claim 1 recites Claim 1 recites: a video link (L3-2) between these connection means (ML 1) and the second pair (TM2, PC2), and an audio link (L3-1) between these connection means (ML1) and the second pair (TM2, PC2); wherein the connection means synchronizes audio and video data according to a delay.

7.   Further, Applicant argues that Danneels teaches a delayed transmission of data packets over networks wherein signals are divided into packets for transmission from a local to remote node and are delayed to transmit at intervals to avoid overloading the remote node and therefore does not teach 'connection means synchronizes audio and video data according to a delay'. Further, while Ishibashi relates to a synchronization mechanism for continuous media in multimedia communications, it does not

specifically teach or suggest the 'wherein the connection means synchronizes audio and video data according to a delay'.

8.   In response, Examiner first notes that in no instance in the application does claim 1 of the record recite the limitation of 'wherein the connection means synchronizes audio and video data according to a delay.' With regards to the Applicant's argument that Danneels teaches of a delay to avoid overloading the remote node, Examiner replies that Daneels teaches the elements of video conferencing while Ishibashi teaches the concept of delays for synchronization of audio and video packets.

9.   The Examiner has examined the claims of record on their merits.

10.   Applicant argues that claims 8 and 9 depend from claim 1 and are patentable for at least the same reasons as claim 1. Further, Applicant argues that Little does not overcome the above noted deficiencies in the disclosures of Danneels and Ishibashi

11.   The Examiner maintains the same argument as presented in paragraph 9 above.

12.   Applicant argues that claims 11, 12, and 13 depend from claim 1 and are patentable for at least the same reasons as claim 1. Further, Applicant argues moreover that Keshab does not overcome the above noted deficiencies in the disclosures of Danneels and Ishibashi.

13.   The Examiner maintains the same argument as presented in paragraph 9 above.

INFORMALITIES

Abstract

1.   The abstract of the disclosure is objected to because the abstract should not contain legal terms such as "said" and "means". The abstract should be in the range of 50-150 words. The abstract should not refer to either figures or figure elements. The abstract must not contain the title. The title should be in first page of the specification.

2.   Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1- 7, 10 and 14 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Danneels et al (U.S. Patent 5663951), hereafter Danneels in view of Ishibashi et al, A Synchronization

Mechanism for Continuous Media in Multimedia Communication, INFOCOM '95. Fourteenth Annual

Joint Conference of the IEEE Computer and Communications Societies. Bringing Information to People.

Proceedings. IEEE 2-6 April 1995 Page(s): 1010 - 1019 vol.3. hereafter Ishibashi

5.   In consideration of claim 1, Daneels teaches of an audio and video data processing device for

multimedia communication across an asynchronous network. (Fig 1; Figure Element (FE) 100, FE 110)

between a first pair of audio communication terminal (FE 104 and 108) and video communication

terminal (FE 102 and 106) and a like second pair (FE 100; Conferencing System B) where the terminals

are LAN type (4: [0050+]) with connection means for setting up video and audio link of the two pairs

(Figure 1; read analog video and audio, Conferencing System A and B) and video and audio links

between the two pairs (FE 110 and 4: [0050-0063]). The nature of audio and video signals are typically

asynchronous, i.e. not synchronous as demonstrated in speech and images, thus the audio and video

terminals are asynchronous.

6.   However Daneels does not explicitly teach of an asynchronous network with random

transmission times.

7.   By contrast, Ishibashi teaches of a digital network to support multimedia communications that

preserves the temporal relation among media stream (Section 1, paragraph 1.). Further, Ishibashi teaches

random transmission times where he contrasts his paper to previous work in the field citing that ".. the network delay bounds are not always known." (Section 1, paragraph 4.).

8.   It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the teaching of Daneels with the random transmission times teachings of Ishibashi to form a network of asynchronous audio and video media streams with random transmission times. This would be advantageous since a network synchronization mechanism based on media streams with random transmission times are more realistic in modeling the way packets (or media units) are transported across networks.

9.   With regards to claims 2 and 14, Daneels does not teach the device according to claim 1 with first dating means arranged to attach a transmit time mark and an identifier to audio and video data; coming from the first audio and video communication terminal before their transmission to the second pair via the said local network and to attach a receive time mark to the audio and video data coming from the second pair and containing an identifier and a transmit time mark, and their own processing means to determine a time difference representing the transmission time difference between the received audio and video data and presenting the same identifier from their respective transmit and receive time marks to delay by a value representing the time difference the transmission of the received audio data at the first audio communication terminal in relation to the transmission of the received video data at the first video communication terminal. Thus, Daneels does not teach connection means synchronizes audio and video data according to a delay.

10.   Ishibashi teaches of a device with first dating means that attaches a transmit time mark and an identifier to audio and video (A/V) data before their transmission to the second like A/V terminal pair. (Section 2; Media Synchronization model; read data as media unit; transmit time mark as timestamp; audio and video data as M media streams 1 – M, Figure 1) across the local network (Figure 1; read high speed network) and attach a receive time mark to the audio and video data from the second pair

containing an identifier and a transmit time mark. (Section 2; Media Synchronization model; Figure 1

read destination media stream.). Ishibashi also teaches processing means to determine a time difference

representing the transmission time difference between the received audio and video data (Figure 2; read

'i' as audio or video stream 'i'; sigma as difference between timestamps) and presenting the same

identifier, i.e. media stream, from their respective transmit and receive time marks i.e. timestamps, and

delay by a value representing the transmission time difference of the received audio data at the first audio

communication terminal in relation to the transmission of the received video data at the video

communication terminal. (Figure 2; also see discussion on page 1011 regarding inter-stream

synchronization and master/slave streams; Section 1 Introduction, read delay as adjust output timing).

11.   It would have been obvious at the time the invention was made to a person of ordinary skill in the

art to modify the teaching of Daneels with the synchronization teachings of Ishibashi.

12.   This modification would be advantageous as it would permit the video and audio packets received

across an asynchronous network to be synchronized and presented to the end user in concert.

13.   With regards to claims 3 – 4, and 15, Daneels does not of a device with processing means

arranged to determine a time difference (ET) representing the transmission time difference and a coding

and decoding time difference between the received audio and video data, presenting the same identifier

and synchronization of audio and video occurs once at the connection means and once at the pair.

14.   Ishibashi teaches of media stream coding and decoding performed in the application layer (Figure

1) that are received at synchronization service access point. Further, Ishibashi teaches of the concept of

inter-stream synchronization between master/slave streams. (Section 4.2, page 1015) i.e. synchronization

of audio and video occurs once at the connection means and once at the pair. Because less processing is

required for audio data, the 'faster' audio stream represents the master stream, the video the slave stream

i.e. identifier. (page 1011). Daneels teaches that audio (6: [0024]) and video coding and decoding as part

of the process to generate multimedia streams.

15.   It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the teaching of Daneels with the synchronization teachings of Ishibashi.

16.   This modification would be advantageous as it would further facilitate the video and audio packets received across an asynchronous network to be synchronized and presented to the end user in concert.

17.   With regards to claims 5 and 7, Daneels teaches of audio and video links that are of a "deterministic" type in Figure 1; i.e. links between FE 102,106 and FE100 video; links between FE 104,108 and FE 100.

18.   In reference to claim 6, Daneels does not teach processing means arranged so as to determine the time difference from the transmit and receive time markings of the received audio and video data, and from values representing their respective transmission times between the connection means and the first audio and video communication terminals for which they are intended.

19.   Ishibashi teaches of media stream coding and decoding performed in the application layer (Figure 1) that are received at a common synchronization service access point (SSAP). Daneels teaches of audio and video links that are of a "deterministic" type in Figure 1 whose delays can be sent to the SSAP. Further, Ishibashi teaches that time difference can be derived from time markings i.e. timestamps between tightly coupled media-streams such as audio and video (Section 4.2.1 and Figure 4). Further, Ishibashi teaches of the concept of inter-stream synchronization between master/slave streams. Because of relative shorter period required to process audio data, the audio stream represents the master stream, the video the slave stream (Page 1011).

20.   It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the teaching of Daneels with the synchronization teachings of Ishibashi.

21.   This modification would be advantageous as it would further facilitate the video and audio

packets received across an asynchronous network to be synchronized and presented to the end user in

concert.

22.   With regard to claim 10, Daneel's Conference System (Figure 1, FE 100) represents a connection

means that provides a proxy type function for audio and video data to the network LAN.

23.   Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danneels et al

(U.S. Patent 5663951), hereafter Danneels in view of Ishibashi et al, A Synchronization Mechanism for

Continuous Media in Multimedia Communication, INFOCOM '95. Fourteenth Annual Joint Conference

of the IEEE Computer and Communications Societies; Bringing Information to People. Proceedings.

IEEE 2-6 April 1995 Page(s): 1010 - 1019 vol.3 hereafter Ishibashi, and in further view of Little et al,

Network and Operating Systems Support for Digital Audio and Video: Proceedings, 5th International

Workshop on Network and Operating Systems Support for Digital Audio and Video, Springer 1995,

hereafter Little.

24.   Danneels and Ishibashi teach the limitations of claim 2 but are silent in teaching assignment of

priority levels to audio and video data to be transmitted or assigning a lower priority to video data relative

to audio data.

25.   By contrast, Little teaches in the traffic characteristics and flow control that video streams have

lower priority then higher priority audio, i.e. read jitter as characteristic of audio streams. (Page 168 - 169;

Traffic Characteristics and Flow Control section).

26.   It would have been obvious at the time the invention was made to a person of ordinary skill in the

art to modify inter-stream synchronization between audio and teachings of Danneels and Ishibashi with

the audio visual (A/V) priority teachings of Little.

27.   By transporting audio streams across a network with a higher priority relative to its companion

video stream, the random arrival time of A/V packets at the destination port is mitigated and the

distribution of both packet classes are more tightly bounded. This is ultimately advantageous in

improving the synchronization of the two data streams.

28.   Claims 11,12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Danneels et

al (U.S. Patent 5663951), hereafter Danneels in view of Ishibashi et al, A Synchronization Mechanism for

Continuous Media in Multimedia Communication, INFOCOM '95. Fourteenth Annual Joint Conference

of the IEEE Computer and Communications Societies. Bringing Information to People. Proceedings.

IEEE 2-6 April 1995 Page(s): 1010 - 1019 vol.3 hereafter Ishibashi, and in further view of Keshab et al,

Digital Signal Processing for Multimedia Systems, CRC Press 1999 pg 245 and 274, hereafter Keshab.

29.   Danneels and Ishibashi teach the limitations of claim 1 but are silent in teaching of processing

device for an audio, video, or communication unit.

30.   Keshab teaches, circa 1999, of recent developments of microprocessors and DSP chips that

provide audio and video processing capabilities (page 245, 2nd paragraph). Further, Keshab teaches that

developments of microprocessors can be also be used in wireless communications (page 274, 3rd

paragraph).

31.   It would have been obvious at the time the invention was made to a person of ordinary skill in the

art to modify the inter-stream synchronization between audio and teachings of Danneels and Ishibashi

incorporating a digital processing device in the video, audio, and communication unit.

32.   Processing audio and video signals with a DSP in the video and audio communication unit

improves the fidelity of A/V data and digital processing of communication signals efficiently utilizes

bandwidth.

FINAL ACTION

14.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office

action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
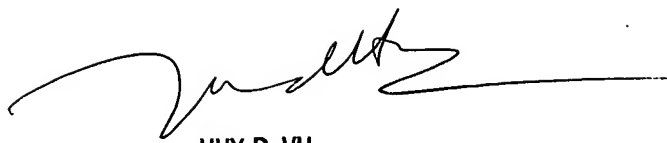
Conclusion

33.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Baron whose telephone number is (571) 270-1748. The examiner can normally be reached on 7:30 AM to 5:00 PM E.S.T. Monday to Friday.

34.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

35.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2616

/hb/

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600